

CROSS-REFERENCE

PN - JP2003010638 A 20030114  
 TI - PLASMA WASTE GAS TREATMENT METHOD, WASTE GAS TREATMENT TOWER USING THE SAME METHOD, AND WASTE GAS TREATMENT APPARATUS COMPRISING THE SAME TOWER  
 AB - PROBLEM TO BE SOLVED: To develop a waste gas treatment tower of a waste gas treatment apparatus capable of not only thermally decomposing CF<sub>4</sub> but also reliably thermally decomposing any semiconductor waste gas generated in semiconductor fabrication processes and a waste gas treatment apparatus comprising the waste gas treatment tower. SOLUTION: Plasma is generated between electrodes (4), (7) and a waste gas (F) is supplied together with at least one of oxygen or water to the plasma space to decompose the waste gas (F).  
 FI - B01D53/34+ZAB; B01D53/34&120A; B01D53/34&134E; B01J19/08&E; H01L21/205; H05H1/42  
 PA - KANKEN TECHNO CO LTD  
 IN - IMAMURA KEIJI  
 AP - JP20010199426 20010629  
 PR - JP20010199426 20010629  
 DT - I

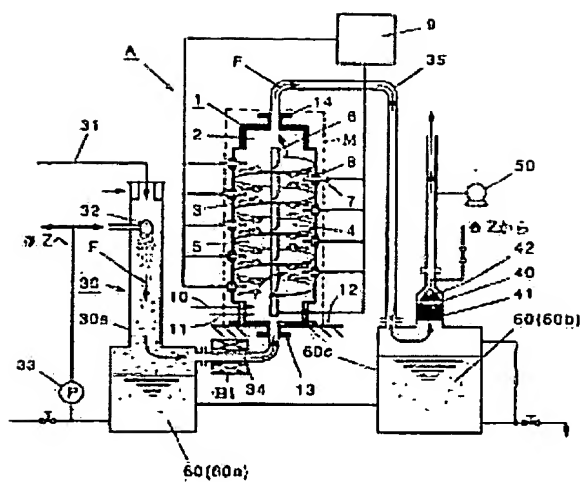
ADVANTAGE

AN - 2003-319051 [31]  
 TI - Plasma processing of waste gas ejected during cleaning and etching process in semiconductor manufacture, involves decomposing waste gas by supplying waste gas and oxygen and/or water, to plasma space formed between electrodes  
 AB - JP2003010638 NOVELTY - The plasma waste-gas processing method involves forming a plasma between electrodes (7), supplying waste gas and oxygen and/or water to plasma space, and decomposing the waste gas.  
 - DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:  
 - (1) waste-gas discharge treatment tower; and  
 - (2) waste-gas processing apparatus equipped with treatment tower.  
 - USE - For processing of waste gas ejected during cleaning and etching process in manufacture of electronic-circuit components, such as semiconductor and liquid crystal.  
 - ADVANTAGE - As the plasma formed between the electrodes spreads like a sheet on the whole surface and forms a plasma space, the waste gas is decomposed effectively. Decomposition process performed by the high heat of plasma in the presence of oxygen and/or water, has high efficiency and irreversible target. Waste-gas component like tetrafluoromethane which is hard to decompose is also decomposed efficiently and irreversibly. The inner side of the decomposing chamber of the treatment tower is maintained in a pure state as the tower withstands adhesion of dust formed by decomposition due to high temperature plasma on the walls of the emission route. The processing apparatus using the treatment tower with the front and rear portion scrubber, processes the waste gas efficiently. The power consumption is less than the conventional apparatus, as the treatment apparatus uses an electrical heater.  
 - DESCRIPTION OF DRAWING(S) - The figure shows the sectional drawing of the waste-gas treating apparatus.  
 - Discharge electrode 7  
 - (Dwg. 1/8)  
 IW - PLASMA PROCESS WASTE GAS EJECT CLEAN ETCH PROCESS SEMICONDUCTOR MANUFACTURE DECOMPOSE WASTE GAS SUPPLY WASTE GAS OXYGEN WATER PLASMA SPACE FORMING ELECTRODE  
 PN - JP2003010638 A 20030114 DW200331 B01D53/70 008pp  
 IC - B01D53/34 ; B01D53/46 ; B01D53/70 ; B01J19/08 ; H01L21/205 ; H05H1/42  
 MC - L04-X  
 - U11-C06A1B U11-C07A1 U11-C09C U11-C15Q V05-F04E V05-F05C V05-F05E5 V05-F08E  
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 PA - (KANK-N) KANKEN TECHNO KK  
 AP - JP20010199426 20010629  
 PR - JP20010199426 20010629

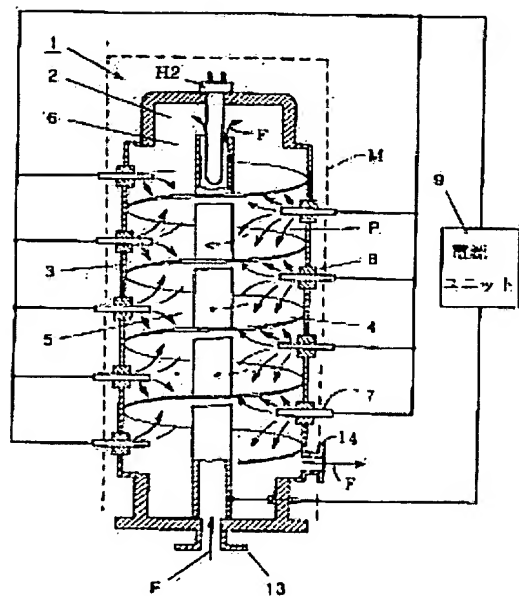
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FA - KANKEN TECHNO CO LTD  
IN - IMAMURA KEIJI  
ABD - 20030512  
ABV - 200305  
AP - JP20010199426 20010629

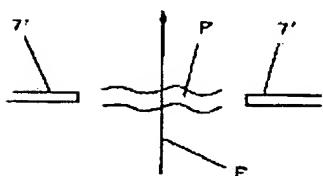
【圖 1】



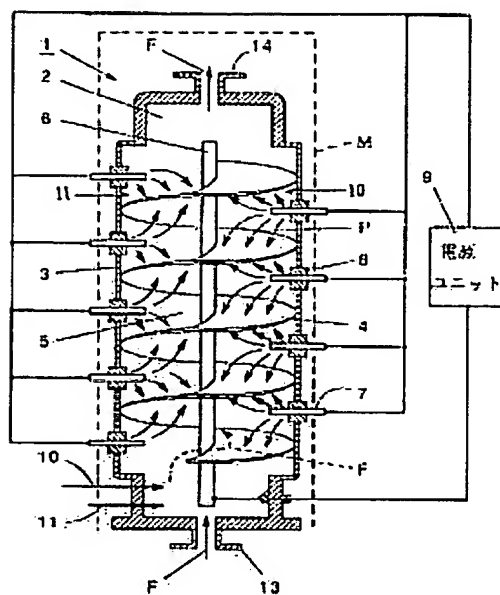
【圖 5】



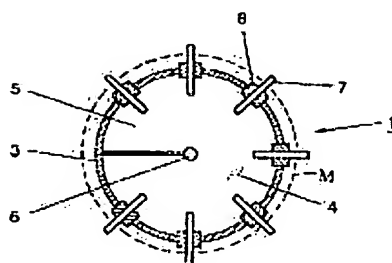
【图5】



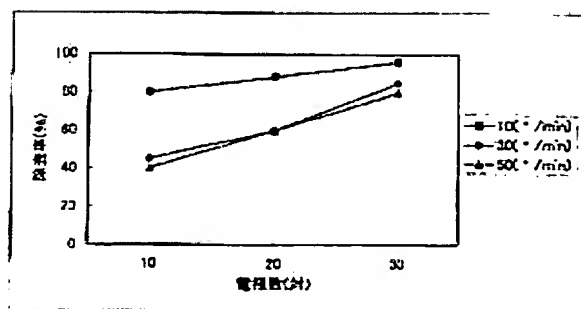
【圖2】



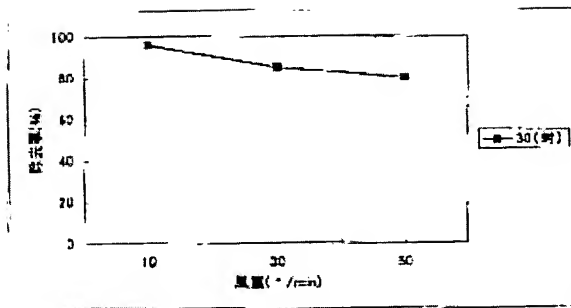
【圖-1】



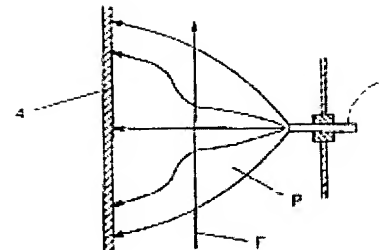
【圖5】



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〔47〕



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H05H 1/12

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BD07 CA02 CA15 CA17 CA51  
DA02 DA12 DA13 EA01 EC21  
ED50 EC09 EC21 FE02 FE03  
FE04 FC11 FC15  
GF015 DG08 BB11 EG07 EH01